

What is claimed is:

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Sub B2
1. A protein having amino acid sequence in SEQ ID No.:1 of the Sequence Listing.
2. A homodimer protein according to claim 1.
3. A pharmaceutical composition for treating cartilage and bone diseases comprising a therapeutically effective amount of the protein according to claim 2 and a pharmaceutical carrier.
4. The pharmaceutical composition according to claim 3 wherein cartilage and bone diseases are osteoporosis.
5. The pharmaceutical composition according to claim 3 wherein cartilage and bone diseases are osteoarthritis or arthroseitis.
6. The pharmaceutical composition according to claim 3 wherein cartilage and bone diseases are bone fracture and bone defect.
7. The pharmaceutical composition according to claim 3 wherein cartilage and bone diseases are radicular ~~and~~ ^{alveolar} arvecular defects.
8. A process for preparing the protein of claim 1 which comprises culturing *E. coli* transformed with a plasmid containing DNA sequence which is capable of expressing said protein.
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9. The process according to claim 8 wherein the plasmid contains a DNA coding amino acid sequence in SEQ ID No.:1 of the Sequence Listing with a methionine at the N-terminus.

10. A process for preparing the dimer protein according to claim 2 which comprises the steps of;

constructing a plasmid containing DNA coding amino acid sequence in SEQ ID No.:1 of the Sequence Listing with a methionine at the N-terminus,

introducing the plasmid into *E. coli* for transformation, solubilizing inclusion bodies obtained by culturing said *E. coli*,

purifying the monomer protein from the solubilized solution,

refolding the monomer protein into a dimer protein and purifying the same.

11. A method for treating cartilage and bone diseases, which comprises administering to a human a pharmaceutical composition containing, as an active ingredient, an effective amount of the homodimer protein as claimed in claim 2.

12. The method for treating cartilage and bone diseases as claimed in claim 11, wherein said disease is osteoporosis.

13. The method for treating cartilage and bone diseases as claimed in claim 11, wherein said disease is osteoarthritis or arthroseitis.

14. The method for treating cartilage and bone diseases as claimed in claim 11, wherein said disease is bone fracture and bone defect.

15. The method for treating cartilage and bone diseases as claimed in claim 11, wherein said disease is radicular and arvecular defects.